



Federal Communications Commission  
Washington, D.C. 20554

December 28, 2012

Ms. Marlene H. Dortch, Secretary  
Federal Communications Commission  
445 12th Street SW  
Washington, DC 20554

Re: Measuring Broadband America Program, GN Docket No. 12-264

Dear Ms. Dortch:

On December 10, 2012, Arvind Narayanan, Assistant Professor Princeton University met with James Miller Federal Communications Commission to discuss the Commission's Measuring Broadband America program's mobile measurement effort. The meeting focused on discussion of privacy issues and program goals described in a review document presented at the November 28, 2012 mobile collaborative meeting.<sup>1</sup>

Mr. Narayanan discussed that the highly longitudinal nature of mobile broadband performance data raised concerns about the level of resolution of the data collected. Mr. Narayanan indicated that discarding any unique identifier, such as a software client identifier, would minimize significant privacy concerns. Mr. Narayan explained that software taking different measurements at predictable times would also generate a pattern and that ideally each handset client should independently randomize the timing at the handset.

Mr. Narayanan also described network fingerprinting techniques that have been used to identify hardware and software stacks using identifiable characteristics in Internet Protocol such as warm-up or numbers of threads, and suggested that while risks were low, review of actual data would be recommended. He expressed interest in assisting with review of data post-collection, to identify linkable elements in the dataset or known re-identification weaknesses. He indicated that review of the actual data's number and diversity of observations could better inform what levels of anonymity the data would support. Review of the data to identify correlations associated with cell-tower locations, were also recommended.

Mr. Miller invited Mr. Narayanan to share further comments and feedback at the mobile collaborative meeting scheduled for December 21, 2012.

Sincerely,

A handwritten signature in blue ink, appearing to be "James Miller", is written over the "Sincerely," and extends across the middle of the page.

James Miller, Senior Attorney Advisor  
Electromagnetic Compatibility Division/OET

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<sup>1</sup> The review document and an ex parte filing of the November 28, 2012 meeting are available in GN Docket No. 12-264.